

Postdoctoral research position in reactive transport modeling



NATIONAL
ACCELERATOR
LABORATORY



Project description

A postdoctoral research position is available at SLAC National Accelerator Laboratory and Stanford University in reactive transport modeling of transient biogeochemical processes in variably saturated alluvial aquifers that impact water quality. The scholar will join a vibrant and highly interactive multidisciplinary research team that is integrating observations of water transport, microbiology, and geochemistry to develop models of hydrological-biogeochemical coupling in contaminated alluvium. The postdoctoral project will involve modeling of field and laboratory experiments targeting the role of variable water saturation on microbially driven biogeochemical redox reactions and their impact on uranium, sulfate, and molybdenum transport.

What we are looking for

We seek an exceptional individual with a Ph.D. in hydrology, geochemistry, environmental engineering, soil science, or a related discipline, who has experience applying reactive transport modeling approaches in one or more of the following areas: (i) unsaturated zone processes and transient flow conditions, (ii) biogeochemical oxidation-reduction reaction networks, including metabolite, contaminant, or nutrient biogeochemical cycling/release/uptake; or (iii) data science or machine learning applied to physics-based models and uncertainty quantification. Experience integrating hydrologic, geophysical and biogeochemical measurements into model simulations and familiarity with Department of Energy computational frameworks is desirable.

The team

The researcher will work under the supervision of Professor Kate Maher (Stanford, Department of Earth System Science) as part of the DOE-BER-funded SLAC Groundwater Quality Science Focus Area (SFA) program. The scholar will collaborate with the other team leaders, John Bargar, Kristin Boye, Scott Fendorf, and Chris Francis. For more information on the Groundwater Quality SFA program, visit <http://ssrl.slac.stanford.edu/sfa/>. The project is envisioned and funded as a two-year effort. We also encourage postdoctoral associates to develop strong skills and networks for successful scientific careers by publishing papers, presenting papers at scientific meetings, organizing symposia, writing proposals, and expanding on their existing skill sets.

How to apply

Interested applicants should send a curriculum vitae, a one page narrative summary of research experience and goals, and the names and contact information of two references to Professor Kate Maher (kmaher@stanford.edu). Review of applications will begin immediately and will continue until the position is filled. SLAC is an equal opportunity employer.

